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**REMARKS**

Claims 1-19 were pending in the present application. Claims 1-4 were withdrawn from consideration. By virtue of this response, claims 9 and 15 have been cancelled, and claims 5, 8, 10 and 17 have been amended. No new claims have been added. Accordingly, claims 5-8 and 10-19 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added.

**Claim Objections**

Claim 8 is objected to under 37 C.F.R. 1.75(c), as being of improper dependent form for *failing to further limit* the subject matter of a previous claim. By this Amendment, Applicants have amended claim 8 to depend from claim 5, rather than claim 7. Thus, the objection under 37 C.F.R. 1.75(c) has been obviated, and should be withdrawn.

Claim 5 is objected to for including informalities. By this Amendment, applicants have amended claim 5. The Applicants believe this amendment rectifies the informalities objected to in the Office Action. The Applicant has clarified the limitation: "forming on a single substrate a plurality of laser portions each oscillating laser light of a different wavelength." to read: "**forming a plurality of laser portions on a single substrate, each of the laser portions** oscillating laser light of a different wavelength..."

Thus, the amendments to claim 5 and claim 8 are fully responsive to the objections raised in the Office Action, and therefore these objections should be withdrawn. Applicants respectfully request withdrawal of these objections, and allowance of these claims.

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**Rejections under 35 U.S.C. §102(e)**

Claims 5-8 and 12-14 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by published U.S. Patent Application No. U.S. 2002/0041148 by Cho et al. ("Cho").

In order to anticipate, a reference must teach every aspect of the claimed invention either explicitly or impliedly. See MPEP 706.02. In this Amendment, Applicants have amended independent claim 5, from which claims 7-8 and 12-14 depend. Because the amended claim 5 now contains at least one aspect that is not shown or described in Cho, the objection under 35 U.S.C. §102(e) that claims 5-8 and 12-14 are anticipated by Cho has become moot.

Claim 5 has been amended to incorporate the features recited in (now cancelled) dependent claim 9. Claim 5 now recites: "...further, wherein the laser portion previously formed contains p type dopant having a diffusion coefficient smaller than that of p type dopant the laser portion subsequently formed." Cho does not anticipate, because Cho does not show or describe a method of fabricating a semiconductor laser device, "forming a plurality of laser portions on a single substrate... wherein a laser portion previously formed and a laser portion subsequently formed are formed by different crystal growth methods, respectively, and further, wherein the laser portion previously formed contains p type dopant having a diffusion coefficient smaller than that of p type dopant the laser portion subsequently formed." Thus, Cho does not teach all of the aspects of claims 5-8 and 12-14, and the rejection under 35 U.S.C. §102(e) should be withdrawn.

Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §102(e) of claims 5-8 and 12-14.

**Rejections under 35 U.S.C. §103(a)****I. Claims 5-8, 18 and 19**

Claims 5-8, 18 and 19 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over published U.S. Patent Application No. U.S. 2001/0021209 by Onishi ("Onishi")

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in view of Cho. Since neither Onishi nor Cho teach or suggest all of the aspects of independent claim 5 (as amended), the 35 U.S.C. §103(a) rejection of claims 5-8, 18 and 19 should be withdrawn.

As discussed above, the Applicants have amended independent claim 5, from which claims 6-8, 18 and 19 depend, to recite a method of fabricating a semiconductor laser device "...wherein the laser portion previously formed contains p type dopant having a diffusion coefficient smaller than that of p type dopant the laser portion subsequently formed." Also as discussed above, Cho does not teach that the "laser portion previously formed contains p type dopant having a diffusion coefficient smaller than that of p type dopant the laser portion subsequently formed." Furthermore, Onishi cannot cure this deficiency. In the words of the Office Action:

"Onishi does not teach that the laser portion previously formed contains p type dopant (i.e.) having diffusion smaller than that of p type dopant (i.e. zinc, carbon or magnesium) the laser portion subsequently formed." Office Action of Dec. 9, 2004, page 6.

Thus, neither Cho nor Onishi teach or suggest all of the features recited in independent claim 5 as amended. Therefore, claims 5-8, 18 and 19 cannot be obvious in light of Cho and Onishi, and the 35 U.S.C. §103(a) rejection of claims 5-8, 18 and 19 is improper. MPEP §2143. Applicants respectfully request withdrawal of this rejection.

## 2. Claims 9-11 and 15-17

Claims 9-11 and 15-17 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Onishi in view of JP 10-229249 to Nippon Telegraph ("Nippon").

Applicants disagree, because (1) there is no motivation to combine Onishi and Nippon and (2) even if Onishi and Nippon are combined, the resulting combination does not teach or suggest the invention as claimed in pending claims 10, 11, 16, and 17 (Applicants note that claims 9

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and 15 have been cancelled by this Amendment, and therefore the 35 U.S.C. 103(a) rejection of these claims has been obviated).

First, there is no motivation to combine Onishi's method of fabricating semiconductor lasers capable of emitting a plurality of laser beams of different wavelengths with Nippon's method of layering Be-doped InP on top of Zn-doped P-InP layers. Onishi and Nippon describe different methods for producing different structures that address different and unrelated problems. Onishi teaches methods of fabricating devices for emitting a plurality of laser beams of different wavelengths from a single light-emitting spot, or from two immediately adjacent light-emitting spots. In contrast, Nippon describes a device in which low-levels of dopant (e.g.,  $5 \times 10^{17} \text{ cm}^{-3}$  of Zn or Be) may be layered on top of each other to form a laser (e.g., a single light-emitting device). Certainly Onishi does not suggest any motivation to combine with Nippon. Onishi does not even discuss dopants. Further, Nippon does not suggest combining with Onishi. Nippon does not discuss the formation of different laser portions that emit laser light at different wavelengths.

Although the Office Action states that combining Nippon with Onishi would, "prevent the inter-diffusion between the two laser portions," suggesting that one of skill in the art would be motivated to combine Nippon with Onishi to prevent diffusion between the layers. However, this is not a motivation to combine Onishi with Nippon. As described above, neither Onishi nor Nippon suggest that inter-diffusion of dopant between different laser portions that oscillate light at different wavelengths is an issue.

Thus, there is neither explicit nor implicit motivation for one of skill in the art to combine Onishi and Nippon. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of combining the references. MPEP § 2143.01.

Second, even assuming that Onishi were combined with Nippon, the combination of Onishi and Nippon would not teach or suggest all of the features of the invention claimed in pending claims 10, 11, 16, and 17. In particular, the combination of Onishi and Nippon would not

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teach a method of fabricating a semiconductor laser device by forming a plurality of laser portions on a single substrate, where each of the laser portions oscillates laser light of a different wavelength, and where a laser portion that is previously formed contains p type dopant having a diffusion coefficient that is smaller than p type dopant in the laser portion subsequently formed. Claim 5 (as amended) recites these features, and pending claims 10, 11, 16, and 17 are all dependent upon claim 5.

Instead, the combination of Onishi and Nippon would describe a method of fabricating an optical device in which *each* light-emitting region has a Zn-doped P-InP layer on top of a Be-doped InP layer. This method is not the same the method of pending claims 5, 10, 11, 16, and 17, because a previously formed portion (e.g., a light-emitting region) will not contain p type dopant having a diffusion coefficient that is smaller than that of p type dopant in a subsequently formed portion.

As discussed above, Onishi does not teach or even suggest methods of fabricating laser devices where the laser portion previously formed contains p type dopant having a diffusion coefficient that is smaller than that of p type dopant in the laser portion subsequently formed. Furthermore, Nippon cannot cure this deficiency. Nippon teaches a light emitting device that is fabricated by layering a Zn doped p-InP layer (shown as layer 16 in Nippon) *onto* a Be doped InP clad layer (as shown as layer 14 in Nippon). Thus, Nippon suggests fabricating an optical device that has a Zn doped p-InP layer *on top of* a Be doped InP clad layer. There is no teaching in Nippon to fabricate different regions that emit light at different wavelengths.

Thus, the most reasonable combination of Onishi and Nippon would teach a method of fabricating an optical device having different light-emitting regions where *each* region has a Zn-doped layer *on top of* a Be-doped layer. This is the most reasonable combination of Onishi and Nippon, because Nippon describes forming a laser device (e.g., a light-emitting region) that has *both* a Zn-doped P-InP layer and a Be-doped InP layer, and Onishi teaches a device with multiple light-emitting regions. There is no teaching or suggestion in either Onishi or Nippon to separate the Zn-doped layer from the Be-doped layer.

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To summarize, the 35 U.S.C. §103(a) objection of pending claims 10, 11, 16, and 17 over Onishi in view of Nippon is improper, at least because there is no motivation to combine Onishi and Nippon. In order to establish a *prima facie* case of obviousness, there must be some suggestion or motivation to modify or to combine the references, and the combination of references must teach or suggest all the features of the claim. MPEP §2142. The combination of Onishi and Nippon do not teach or suggest all of the features recited in independent claim 5 (as amended), from which claims 10, 11, 16, and 17 descend.

For at least the reasons given above, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. 103(a) of claims 10, 11, 16, and 17.

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**CONCLUSION**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicants petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 245402007700. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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